

ABSTRACT

The apparatus for automatically focusing an image in a microscope includes onto an object plane includes an optical system configured to form an optical image of a sample plane to be observed, an autofocusing detection system, and a focus correction system. The autofocusing system includes an autofocusing light beam source for generating autofocusing light beams. The autofocusing system further includes a detection system lens for directing autofocusing light beams to an autofocusing detection device, and an autofocusing detection device for determining the amount of displacement of the image of the object plane from a desired focused reference plane. The focusing correction system includes a feedback controller and focus adjusting device for automatically adjusting the distance between an objective lens and the sample plane in order to properly focus the image in the optical system. A related method of automatically focusing an image of an object plane in a microscope is also provided.